

# **Network Code on Forward Capacity Allocation**

## **Explanatory Document of Changes in the Resubmitted Version**

### **2 April 2014**

*Disclaimer: For clarification the Article numbers mentioned in this document refer to the ones in the resubmitted NC FCA, unless it is explicitly mentioned otherwise.*

**An explanation of updates &  
improvements to the network code  
on Forward Capacity Allocation in  
light of ACER's Opinion**

## EXECUTIVE SUMMARY

The final network code on Forward Capacity Allocation (NC FCA) was submitted by ENTSO-E to ACER on 1<sup>st</sup> October 2013 with an accompanying explanatory document. On 19<sup>th</sup> December 2013, ACER issued its Opinion on the network code acknowledging the significant work done to date but highlighting a number of areas where it considered additional work was required to be in line with the Framework Guideline. The purpose of this explanatory document is to identify the changes made by ENTSO-E to the NC FCA taking on board the key points raised in the ACER Opinion, and also to identify areas where ENTSO-E has decided not to change the code in line with ACER's expectations. In all cases, a justification is provided to explain why changes have been made to certain parts of the network code and not to others.

In its Opinion, the Agency identified five areas where it considered changes to the NC FCA were required – timelines for establishing the Single Allocation Platform and harmonising the type of Transmission Rights, Allocation Rules and Nomination Rules; principles for Long Term Transmission Rights Remuneration; Firmness provisions; decision on cross-zonal risk hedging opportunities; and other issues such as legal robustness and regulatory approvals. These are addressed in turn throughout the body of the explanatory document.

One of the two issues raised by ACER in its Opinion as a priority are the timelines for establishing the Single Allocation Platform and harmonising the type of Transmission Rights, Allocation Rules and Nomination Rules. For the Single Allocation Platform, ACER looks to introduce a deadline of 15 months from entry into force of the code by removing the need to define a common set of requirements and subsequent NRA approval and basing the establishment of the platform on the proposed joint venture of CASC and CAO. It is proposed to introduce a consistent process for harmonising the type of Transmission Rights, Allocation Rules and Nominations Rules by inserting six months for the proposal (27 months for Nomination Rules), six months for NRA approval and a further three months for implementation.

ENTSO-E has refined the wording on the type of Transmission Rights to distinguish between Bidding Zones where Long Term Transmission Rights exist and six months is appropriate and where they do not, where an additional two months is provided for the NRA decision. Changes have also been made to further harmonise the provisions for FTR Options and Obligations. ENTSO-E has not adopted ACER's timeline for the Single Allocation Platform and considers the steps and timeline required to establish it are needed. Although ENTSO-E agrees with ACER that it is important to establish the Harmonised Allocation Rules as soon as possible, it considers the timeline proposed in the code as appropriate given the complexity of the work involved. It is also proposed to keep the wording for Nomination Rules, to avoid the possibility of time wasted and stranded systems costs in the future as markets evolve and TSOs move from PTRs to FTRs. The timeline of three months to implement the type of Transmission Rights, Harmonisation of Allocation Rules and Nomination Rules have also not been included as this would be dependant on when the code comes into force and may not be appropriate for practical reasons for products or rules that tend to be determined on an annual basis.

The Opinion considered that the Revenue Adequacy principle should be removed from the code but accepted that Long Term Transmission Rights remuneration might differ from the day-ahead price differential when transmission losses were taken into account in the market

coupling algorithm. ENTSO-E has taken this into account and removed the principle of Revenue Adequacy and reworded Article 40 accordingly.

On the issue of firmness, which is the second issue of particular priority for ACER, the Opinion goes beyond the requirements of the Framework Guideline requiring compensation based on the total congestion income for the whole year. It also calls for the removal of price caps and a derogation for outages affecting a Bidding Zone Border comprising a single interconnector. ENTSO-E has moved further towards the ACER position and now provides for NRAs to modify or remove the cap after the Long Term Firmness Deadline once this cap is reached. This is premised on the ability of TSOs to recover the costs of firmness once these costs are assessed as efficient. ENTSO-E's position on firmness is provided as a separate paper in the Annex to this Explanatory Document.

A number of recommendations to the decision on cross-zonal risk hedging opportunities are proposed by ACER. First it recommends that the code describe in more detail the criteria required to perform the evaluation on the efficiency of forward financial markets. It also calls for increasing the timelines NRAs have to use an existing assessment from three years to four years and the period for subsequent reassessments from three to five years. In order to include evaluation criteria in the NC FCA a proper analysis will first need to be undertaken and agreed during the period preceding comitology. The NC FCA has been changed to reflect the longer timelines for the initial assessment and reassessments in line with ACER's wishes.

Finally, the Opinion asks that the NC FCA take cognisance of developments with NC CACM and look to ensure consistency with this code. It also looks to ensure that a consistent approach is used in relation to the Regulatory Approvals and that Nomination Rules be subject to approval of all NRAs. It has already been agreed that the NC FCA would be modified as required to be in line with the NC CACM. As the NC CACM is still going through the comitology process it remains unclear when is the optimal time to do this. Where there is some certainty that the NC CACM text is unlikely to change, modifications have been made to the NC FCA to ensure more precise wording and consistency. Regulatory approvals of Nomination Rules by all NRAs has not been accepted as not all Bidding Zone Borders will issue PTRs, therefore regulatory approval should only be required where PTRs exist.

# 1 PURPOSE & OBJECTIVES

## 1.1 PURPOSE OF THE DOCUMENT

This document is provided alongside the final network code on Forward Capacity Allocation (NC FCA) resubmitted on 2 April 2014. It seeks to outline the changes which have been made to the document in light of ACER's Opinion issued on 19<sup>th</sup> December 2013.

The document is provided for information only and has no binding legal status. It does not seek to duplicate information provided in the explanatory document which accompanied the final network code on 1<sup>st</sup> October 2013. The primary purpose of this explanatory document is to highlight what changes have been made in light of the ACER Opinion and the rationale for these changes. It also highlights where ENTSO-E has not taken on board certain proposals suggested by ACER in its Opinion. Where this is the case a reasoned explanation is provided as to why these proposals have not been included.

## 1.2 STRUCTURE OF THE DOCUMENT

The document has five subsequent chapters and one annex.

The five subsequent chapters of the document include:

- Section 1 explains the purpose and objectives of this document;
- Section 2 contains ENTSO-E's assessment of ACER's reasoned opinion on NC FCA;
- Section 3 provides a detailed explanation of the changes to the NC FCA in light of the ACER Opinion;
- Section 4 lists the areas and describes the reasons where changes to the NC FCA requested by ACER were not considered appropriate by ENTSO-E;
- Section 5 briefly summarises the steps that will take place after the resubmission of the NC FCA.

The document has a single Annex: ENTSO-E Firmness Explanatory Document. This document explains the rationale for the initial firmness regimes developed by ENTSO-E in the NC FCA as submitted to ACER on 1 October 2013. This document is still important as it provides valuable reasons against the firmness regime proposed by ACER.. It also contains figures and charts to show the possible financial consequences of potential future curtailments.

## 2 ENTSO-E ASSESSMENT OF THE ACER OPINION

### 2.1 INTRODUCTION

In its Opinion issued on 19<sup>th</sup> December 2013, ACER recognises ENTSO-E's significant efforts to align the network code on Forward Capacity Allocation (NC FCA) with the Capacity Allocation and Congestion Management (CACM) Framework Guideline and acknowledges its contribution to market integration, as well as non-discrimination, effective competition and the efficient functioning of the market.

However, ACER also considers that the NC FCA, submitted by ENTSO-E to ACER on 1<sup>st</sup> October 2013, is on some aspects not in line with the CACM Framework Guideline and the objectives stated therein. ACER outlined five issues where it considered adjustments to the code are required. In the Opinion, particular attention is dedicated to two topics: the deadlines set to implement terms and conditions or methodologies and the firmness regime.

While ENTSO-E agrees that in a few specific areas there may be scope for amendments addressing ACER remarks, we are convinced that the FCA code is a highly ambitious code in line with the CACM Framework Guideline. As such, we consider that a number of points raised by ACER are unrelated to NC FCA compliance with the CACM Framework Guideline.

Nevertheless, ENTSO-E decided that it would be beneficial to amend the text, to reflect more clearly in an updated version how the NC FCA meets the CACM Framework Guideline. Accordingly, ENTSO-E has amended and resubmitted the NC FCA addressing some of the points raised in the Opinion.

As recognised by ACER, the points addressed in its Opinion do not require extensive efforts. Against this background, and in the interests of delivering the Internal Energy Market as quickly as possible, ENTSO-E has resubmitted an updated version of the NC FCA to prevent unnecessary delays in the process leading to comitology adoption.

### 2.2 TIMELINES FOR ESTABLISHING THE SINGLE ALLOCATION PLATFORM AND HARMONISING THE TYPE OF TYPE OF TRANSMISSION RIGHTS, THE ALLOCATION RULES AND NOMINATION RULES

This is one of two key areas ACER looks to address in its Opinion and mainly concerns what it perceives as a lack of ambition on the part of the TSOs to implement the requirements for

Forward Capacity Allocation in line with the target model deadline of 2014. Although ACER accepts that achieving the 2014 deadline is unachievable given the current status of the NC FCA which has yet to enter the comitology process, it is nonetheless calling for a significantly shorter process than the one provided in the draft NC FCA.

ACER considers a 15 month timeline from entry into force of the Network Code appropriate for the introduction of a Single Allocation Platform based on the proposed joint venture between CASC and CAO allocation offices. It does not see the need for TSOs to define a common set of requirements for the Single Allocation Platform or the subsequent requirement for NRA approval in accordance with Article 54(1). In addition, it looks to replace the timeline proposed for the decision on establishment and implementation of the Single Allocation Platform in Article 55(2) with a simple deadline of 15 months from entry into force of the network code.

ACER looks to employ a common approach with consistent deadlines for the type of Transmission Rights and the harmonisation of allocation and nomination rules. It proposes a shortening of the timeline to develop a proposal for the type of Transmission Rights in the former Article 35(3) from eight to six months, with six months for NRA approval and another three months to implement the Transmission Rights after entry into force of this network code. It applies a similar timeline for the harmonisation of allocation rules reducing the time to develop a proposal for harmonised allocation rules in Articles 57(1) and (2) from twelve to six months, with six months for NRA approval and three months for the harmonised rules to apply across Europe.

ACER also considers that the FCA Network Code should strive for stronger harmonisation than that provided in Article 57 by developing a single document for harmonised allocation rules for PTRs and FTRs, which is not required by the CACM Framework Guideline. Furthermore it recommends that former Article 38(2) setting out a proposal for common rules for the implementation of FTR Obligations is deleted.

Finally, in contrast to the CACM Framework Guideline that simply foresees “greater harmonisation of nomination rules, deadlines and processes”, ACER now considers in its Opinion that a deadline for harmonisation is required within three years of entry into force of the network code, suggesting 27 months for TSOs to submit harmonised nomination rules to NRAs with six months for NRA approval and an additional three months for the harmonised nomination rules to apply. It is not explained on what basis 27 months has been determined, or what is the link to the procedural steps required to achieve the harmonisation of nomination rules. Indeed many deadlines proposed are neither explained, nor linked to any concrete operational steps.

## 2.3 PRINCIPLES FOR LONG TERM TRANSMISSION RIGHTS REMUNERATION

ACER assesses that since the NC FCA says that the remuneration for the Transmission Rights shall be “based on” the market spread, this constitutes a lack of compliance with the CACM Framework Guideline, which states that “TSOs shall give the total financial resale value of capacity back to the market participants who owned the PTR”. This highlights the link between the PTR (and of FTR by extension) and the underlying capacity they represent.

ACER also considers that the Revenue Adequacy Principle does not comply with the CACM Framework Guideline and that it should be removed from the NC FCA. According to ACER’s Opinion, the only case where remuneration might differ from the day-ahead price differential should be when a loss functionality is activated in the market coupling algorithm.

ACER has also displayed concern in its Opinion that principles for the remuneration of Long-Term Transmission Rights would be dealt with at the level of each Bidding Zone Border.

## 2.4 FIRMNESS PROVISIONS

ACER’s proposal contemplates several aspects. For the Long-Term Firmness Deadline (LTFD) ACER expresses in its Opinion that the Network Code should be amended to insist on harmonising the Long-Term Firmness Deadline for each type of Transmission Rights as well as among all borders, so that, ultimately, only one Long-Term Firmness Deadline would apply across Europe.

Regarding the compensation scheme, ACER considers compensation caps as an exception, with the default situation having no caps at all. Where applied, the cap should be based on the total congestion income for the whole year (both Long Term and Day-Ahead) on a Bidding Zone Border basis (monthly cap exceptions are possible for DC cables). The CACM Framework Guideline states that: “*Compensation shall generally be equal to the price difference between the concerned zones in the relevant time frame. As a derogation to the general compensation rule, on some borders and subject to approval by the relevant NRAs, caps on the compensation may be introduced: in the case of curtailment announced before the nomination deadline; in the case of curtailment announced before a reasonable lead-time defined by the concerned NRAs, taking into the account the liquidity of the relevant markets and the possibility for grid users to adjust their cross-border positions; for curtailments of long duration*”. There is no specific reference to yearly or monthly compensation. ACER’s additional requirements are new additions on top of those provided for in the CACM Framework Guideline.

ACER also argues that the caps after the LTFD, and also the price cap, ought to be removed. It suggests the removal of the derogation for outages which affect a Bidding Zone Border consisting of one single interconnector. ACER would potentially include this derogation under regional specificities once appropriate justification is provided. For

compensation in case of force majeure and emergency situations, ACER indicates that the reference to emergency situations should be deleted from Article 63.

## 2.5 DECISION ON CROSS-ZONAL RISK HEDGING OPPORTUNITIES

ACER recommends that Article 35(4) of the NC FCA describes more in depth the criteria required to perform the evaluation “on whether Forward financial electricity markets are well developed and have shown their efficiency or whether other cross zonal hedging opportunities are needed”. Although the formulation of these criteria is not requested in the CACM Framework Guideline, ACER considers the NC FCA to lack specificity in this context.

Furthermore, the geographical scope of the coordinated assessment is considered to be not wide enough by ACER. As a minimum it recommends, that the assessment should be performed in a coordinated manner at a regional level and eventually at EU level.

With regard to the decision to be made within two months after the entry into force of the NC FCA on the need of issuing Long-Term Transmission Rights on each Bidding Zone Border, ACER recommends that the NC FCA allows National Regulatory Authorities to use an assessment performed up to four years (instead of three years, as currently formulated) before entry into force of the NC FCA, as long as it complies with the criteria (mentioned above), when deciding on the risk hedging opportunities at the entry into force of the NC FCA.

With regard to the process of periodically performing a reassessment and revisiting the decision, ACER suggests having in the NC FCA a five-year periodicity for the reassessment, instead of a three year reassessment. In addition, ACER recommends shortening the NRA decision based on this assessment to six months.

## 2.6 OTHER ISSUES

### *Legal robustness*

ACER has a general remark that it would like to have the provisions drafted to the highest level of precision, and to ensure the consistency of each article of NC FCA with the CACM Framework Guideline, as well as the consistency of articles between them.

ACER recommends to assess which definitions and concepts applicable in the NC CACM are relevant in the NC FCA, and to remove any item which is not appropriate for this timeframe.

### *Regulatory Approvals*

ACER considers that the NC FCA should specify that the list under Article 8(2), Article 8(3) and Article 8(4) is non-exhaustive and as such it is without prejudice to competences of

National Regulatory Authorities with respect to other provisions of the NC FCA. To ACER it seems reasonable to align the approach to such clarification with the approach for other Network Codes for which similar concerns have already been raised, for instance in ACER's Opinion on the draft Network Code on Operational Security (NC OS).

In addition, ACER considers that, at least, the Nomination Rules (Article 8 (4) (b)) should be subject to approval by all National Regulatory Authorities and thus be included in Article 8 (2). Regarding the other terms and conditions or methodologies listed under Article 8 (4), ACER invites ENTSO-E to reconsider the appropriate level of approval in coherence with the level of coordination or harmonisation required at Transmission System Operator level.

## 3 SUMMARY OF CHANGES TO THE NETWORK CODE IN LIGHT OF THE ACER OPINION

### 3.1 INTRODUCTION

This chapter gives an exhaustive list on the articles of the resubmitted NC FCA which have been changed in the light of the ACER opinion. In each section a detailed explanation is given why ENTSO-E has made the corresponding update.

### 3.2 TIMELINES FOR ESTABLISHING THE SINGLE ALLOCATION PLATFORM AND HARMONISING THE TYPE OF TYPE OF TRANSMISSION RIGHTS, THE ALLOCATION RULES AND NOMINATION RULES

#### Type of Transmission rights

ACER looks to employ a common approach with consistent deadlines for the Type of Transmission Rights, shortening the timeline to develop a proposal for the Type of Transmission Rights in Article 36(3) from eight to six months, with six months for NRA approval and another three months to implement the Transmission Rights after entry into force of this network code. The timeline proposed in the NC FCA was premised on providing two months for NRAs, where Long Term Transmission Rights currently do not exist, to decide whether TSOs shall issue Long Term Transmission Rights (according to Article 35(2), and an additional six months for TSOs to develop the proposal on the Type of Long Term Transmission Rights. ENTSO-E proposes to distinguish between those Bidding Zone Borders where Long Term Transmission Rights exist and where they do not. Where Long Term Transmission Rights exist six months is considered appropriate, where they do not exist an additional two months are provided for NRA decision.

#### Article 36 – Type of Long Term Transmission Rights

3. All Transmission System Operators of each Capacity Calculation Region shall develop a proposal for the Long Term Transmission Rights to be issued on each Bidding Zone Border(s) **where Long Term Transmission Rights exist** no later than **six** ~~eight~~ months after entry into force of this Network Code. **All Transmission System Operators of each Capacity Calculation Region shall develop a proposal for the Long Term Transmission Rights to be issued on each Bidding Zone Border(s) where Long Term Transmission Rights do not exist no later than six months after the decision to issue Long Term Transmission Rights according to Article 35(2).** The proposal shall include ~~ing~~ timescales for

implementation and at least the description of the following characteristics defined in the Allocation Rules:

- a) type of Long Term Transmission Rights (Physical Transmission Rights, Financial Transmission Rights Option, Financial Transmission Rights Obligation);
- b) Forward Capacity Allocation timeframe (e.g. yearly, monthly);
- c) form of product (e.g. base, peak, off-peak);
- d) the Bidding Zone Border(s) covered;
- e) participating Transmission System Operators; and
- f) involved National Regulatory Authority(ies).

### Harmonised Allocation Rules

ACER recommends that former Article 38(2) setting out a proposal for common rules for the implementation of FTR Obligations is deleted. ENTSO-E has accepted this change and has looked to harmonise the provisions for Financial Transmission Rights Options and Obligations in Articles 38 and 39 and provide an additional requirement under the Harmonised Allocation Rules in Article 56 to address specificities of Financial Transmission Rights Obligations.

#### *Article 39 – Financial Transmission Rights – Obligation*

1. Financial Transmission Rights Obligations holders shall be entitled to receive the remuneration pursuant to Article 40(1) or obliged to pay the price pursuant to Article 40(2).
2. ~~All Transmission System Operators may develop a proposal for common rules for the implementation of Financial Transmission Rights Obligations on the Bidding Zone Border(s) they are responsible for.~~ The implementation of Financial Transmission Rights Obligations shall be subject to the application of Day Ahead price coupling according to [Articles of Chapter 5] of the Capacity Allocation and Congestion Management Network Code.
3. ~~Where the proposal in paragraph 2 is developed, the implementation of Financial Transmission Rights Obligations shall be subject to the following preconditions:~~
  - a) ~~application of Day Ahead price coupling pursuant to [Articles of Chapter 5] of the Capacity Allocation and Congestion Management Network Code; and~~
  - b) ~~common rules for Financial Transmission Rights Obligations as defined in paragraph 2 of this Article.~~

#### Article 56 – Requirements for Harmonised Allocation Rules

A new point has been included concerning the provisions related to collaterals for Financial Transmission Rights in Article 56 (2), outlining the list of contents of Harmonised Allocation Rules:

1. The harmonised Allocation Rules for Physical Transmission Rights and the harmonised Allocation Rules for Financial Transmission Rights shall be consistent with each other, unless the characteristics of the product require them to differ.
2. The harmonised Allocation Rules for Physical Transmission Rights and the harmonised Allocation Rules for Financial Transmission Rights shall individually contain at least:
  - a) harmonised definitions and interpretation;
  - b) harmonised provisions on eligibility and entitlement, suspension and renewal and costs of participation pursuant to Article 42;
  - c) a description of the Forward Capacity Allocation process including at least provisions on Auction specification, submission of bids, publication of Auction results, contestation period and fallback procedures pursuant to Article 42, Article 43, Article 44, Article 47, Article 48 and Article 49;
  - d) a description of the types of Long Term Transmission Rights which are offered, including the remuneration principles pursuant to Article 40;
  - e) **harmonised provisions concerning netting policies and financial collaterals requirements specific for Financial Transmission Rights Obligations, where applicable;**
  - f) harmonised provisions for Secondary Trading pursuant to Article 49;
  - g) harmonised provisions for the return of Long Term Transmission Rights pursuant to Article 48;
  - h) principle description of the applicable Nomination Rules pursuant to Article 41;
  - i) harmonised Use-It-Or-Sell-It (UIOSI) provisions in case of Physical Transmission Rights pursuant to Article 37;
  - j) Firmness provisions and Compensation Rules pursuant to Article 58, Article 59 and Article 61;
  - k) harmonised provisions for financial requirements and settlement pursuant to Article 46; and
  - l) a contractual framework between the Allocation Platforms and the Market Participants including provisions on the applicable law, the applicable language as well as confidentiality, dispute resolution, liability and force majeure.
3. The harmonised Allocation Rules shall contain regional specificities, where appropriate.

### 3.3 PRINCIPLES FOR LONG TERM TRANSMISSION RIGHTS REMUNERATION

Following the recommendation of ACER the Revenue Adequacy Principle has been deleted from the NC FCA (Definitions and Art. 40.3). The only case where remuneration might now differ from the day-ahead price differential is when a loss functionality is activated for a Bidding Zone Border in the market coupling algorithm. Therefore a new numeral in Article 40 has been incorporated to reflect this fact (paragraph 5). In addition, Article 40 has been revised to prescribe more concrete principles for the remuneration in the different cases fully in line with the main principle of remunerating the total financial resale value (remuneration

equal to the market spread, as per ACER's request). For this purpose a new third paragraph has been introduced while the former paragraph 3 (now paragraph 4) has been shortened. This introduces a remuneration equal to the market spread (considering losses as per Article 40(5), if these are applicable). Costs from any other Allocation Constraints according to the NC CACM are pre-financed by TSOs (due to the modifications introduced in Article 68(1), within the next Section 3.4 "Firmness Provisions" of this document) and recovered via tariffs or appropriate mechanisms as determined by NRAs, if these costs are assessed as reasonable, efficient and proportionate by NRAs themselves.

- Definitions (eliminated)

~~**Revenue Adequacy** means the principle according to which the Long Term Transmission Right payouts are linked to the collected Day Ahead congestion income in order to mitigate the risk to Transmission System Operators of financial deficits due to specific design aspects of Day Ahead Capacity Allocation such as, but not limited to transmission losses;~~

- Revision of Article 40, including the deletion of Revenue Adequacy
1. Allocation Platforms **performing the allocation of Transmission Rights** on a Bidding Zone Border shall remunerate the Long Term Transmission Rights holders **pursuant to Articles 37, Article 38, and Article 39** ~~based on the Market Spread between the two concerned Bidding Zones~~ in case the price difference is positive in the direction of the Long Term Transmission Rights.
  2. The Financial Transmission Rights Obligation holders shall remunerate the Allocation Platforms **responsible for allocating Transmission Rights on a Bidding Zone Border** ~~based on the Market Spread between the two concerned Bidding Zones~~ in case the price difference is negative in the direction of the Financial Transmission Rights Obligation.
  3. **The Long Term Transmission Rights remuneration in paragraph 1 and 2 of this Article shall respect the following principles:**
    - a. **When the Cross Zonal Capacity is allocated through implicit allocation in the Day Ahead timeframe, the Long Term Transmission Rights remuneration shall be equal to the market spread.**
    - b. **When the Cross Zonal Capacity is allocated through explicit auction in the Day Ahead timeframe, the Long Term Transmission Rights remuneration shall be equal to the clearing price of the daily auction.**
    - c. **When the Cross Zonal Capacity is allocated through a method other than implicit allocation or explicit auction in the Day Ahead timeframe, the Long Term Transmission Rights remuneration shall be based on the income from the allocation of that capacity.**
  4. All Transmission System Operators on a Bidding Zone Border shall develop a proposal for the calculation of Long Term Transmission Rights remuneration respecting the principles set in paragraph 1, ~~and 2 and 3. of this Article as well as the principle of Revenue Adequacy for the following cases:~~

- a) ~~the Cross Zonal Capacity is allocated through market coupling in the Day Ahead timeframe; or~~
  - b) ~~the Cross Zonal Capacity is allocated through a method other than market coupling in the Day Ahead timeframe.~~
- New numeral incorporated on transmission losses (Art. 40.5)
- 5. The proposal for the calculation of the Long Term Transmission Rights remuneration shall take transmission losses on interconnections between Bidding Zones into account, where these losses have been included in the Day Ahead capacity Allocation process.**

### 3.4 FIRMNESS PROVISIONS

Following ACER's comments that there should be no caps after the Long Term Firmness Deadline, now this latter cap can be either modified or completely removed by NRAs, after it has been breached (Art. 60(3)). The decision for modifying or removing the cap shall be justified on the basis of an assessment of the efficiency of the costs deriving from this decision and the recovery of such costs. This is to guarantee that sufficient data will be available for NRAs to decide. After the modification or removal of a cap, the relevant NRAs may decide to redefine or reintroduce a cap. It is also worth highlighting that (pursuant the unmodified version of Article 60(4) compensation payments to Long Term Capacity Right owners for curtailed capacity after the Long Term Firmness Deadline are prioritised with respect to the compensation payments for curtailed capacity before the Long Term Firmness Deadline, which coupled to the high level of congestion income involved (total income from Day-Ahead and Long-Term) should make breaching this cap highly unlikely (please see an analysis in the ENTSO-E Firmness Explanatory Document enclosed in Annex one).

- Modifications to Article 60(3) (Caps after Long Term Firmness Deadline can be removed or modified by NRAs)
- 3. The cap based on congestion income for the sub-period after the Long Term Firmness Deadline shall limit compensations on the total congestion income in the respective month at the respective Bidding Zone Border and where relevant, for each interconnection. ~~and in the applicable direction.~~ Following an incident where the monthly compensation payments exceed the monthly cap after the Long Term Firmness Deadline, the relevant National Regulatory Authorities at the respective Bidding Zone Border may review this cap after the Long Term Firmness Deadline and decide, to modify or remove it for any subsequent compensation periods. Such a decision shall be justified on the basis of an assessment of the efficiency of the costs deriving from this decision and the recovery of such costs.** Based on such an assessment, the relevant NRAs may on their own initiative, or upon request of relevant TSOs, also decide to redefine or reintroduce the cap.

Removal of the specification that the compensation caps are to be defined per direction as default (Art. 60(2) and 60(3) above) in line with the prior elements (and as per ACER's request) aiming at further increasing the caps, so that these are hardly ever reached, this was not required by the CACM Framework Guideline.

In addition, due to potential different ownership status of the interconnections at each border it was needed to specify that where relevant the congestion income needs to be calculated for each interconnection.

- Modifications to Articles 60(2) and 60(3) (above) (Bidirectional caps per border allowed)
- 2. *The cap based on congestion income for the sub-period before the Long Term Firmness Deadline shall limit compensations on the congestion income from the Long Term Transmission Rights in the respective month at the respective Bidding Zone Border and where relevant, for each interconnection. ~~and in the applicable direction.~~*

Also following ACER requests and, though this is not required for CACM Framework Guideline compliance, the price cap has been removed (formerly Article 57(2), 59(5) and 60(2)). The main TSO intention by making the price cap(s) a possible choice was to protect Market Parties from the drag effect of very extreme market events over the congestion income available for capped compensation, with respect to immediately posterior curtailments. TSOs however now accept the argument that a price cap may limit hedging possibilities.

- Modifications to Articles 58(2), former 59(5) and 61(2) (No price-caps)

58.2 When Long Term Transmission Rights are curtailed, all Transmission System Operators shall compensate the capped Market Spread. A cap based on congestion income shall be applied pursuant to Article 60. The cap based on congestion income shall limit the monthly compensation payments to the amount of congestion income derived from the capacity allocation by the Transmission System Operator over a predefined period of time pursuant to Article 60. ~~The price cap shall be defined in the Compensation Rules as a maximum Market Spread which is used for calculating the compensation.~~

~~59.5 The price cap(s) shall be set as a minimum on the 95th percentile of the hourly Market Spread of the past three years, i.e. in 95% of the hours of the last three years the Market Spread is lower than the price cap. The price cap(s) shall be defined on a yearly basis in the Compensation rules.~~

61.2 The Compensation Rules shall include, at least; a) the applied cap(s) ~~based on congestion income and/or price cap(s)~~ pursuant to Article 57 and Article 59; and b) the determination of the Long Term Firmness Deadline pursuant to Article 58.

The striked-through part in Article 61.2 is not needed any longer since, now, only the enlarged caps based on congestion income remain.

Related to all the above, Cost Recovery provisions for Firmness have been further clarified ( Article 68) in order to better reflect TSOs cost neutrality under the enlarged caps for similar levels of available cross-border capacity. It is to be considered that, unlike Market Parties, TSOs are regulated entities which cannot trade for profit incorporating their risk expectations in cross-border capacity bid prices, or reduce/increase the amount of cross-border capacity offered in function of the applicable Firmness Regime. As regulated businesses, the risk levels of TSOs are also fixed within boundaries. Whatever exceeds these boundaries significantly, causes additional costs to be passed through via tariffs, as part of the regulated mechanism (unless in the case in which these additional costs would have been the consequence of wilful misconduct or gross negligence on the TSO side).

- Modifications to Articles 68

*Article 68 – Cost of ensuring firmness and remuneration of long term transmission rights*

**68.1 Transmission System Operators shall bear the costs incurred when the income from day-ahead capacity allocation is not sufficient to remunerate Long Term Transmission Rights due to the application of Allocation Constraints according to the Network Code on Capacity Allocation and Congestion Management.**

**68.3 The costs of ensuring firmness shall be fully recovered via network tariffs or appropriate mechanisms, as determined by national regulatory authorities in a timely manner unless the national regulatory authority assess, in accordance with Article 14(1) of Regulation (EC) No 714/2009, that these costs have been inefficiently incurred.**

Such an assessment shall:

- a) provide demonstrable proof/evidence to what extent the costs incurred are due to gross negligence or wilful misconduct of transmission system operators;
- b) be made with regard to the information, the time and the tools available to the transmission system operator at the moment it decided to undertake the action; and

fully take into account the firmness provisions pursuant to Article 58, Article 59 and Article 60 of this Network Code, and Compensation Rules pursuant to Article 61, as well as the effect of the potential NRA decision to modify or remove the cap on compensation pursuant to Article 60(3).

### **3.5 DECISION ON CROSS-ZONAL RISK HEDGING OPPORTUNITIES**

Since some National Regulatory Authorities have already carried out a significant amount of work on risk hedging opportunities in 2011 and in 2012, ENTSO-E understands the Agency’s recommendation to allow National Regulatory Authorities to use an assessment produced up to four years before entry into force of the NC FCA.

Therefore Article 35(2) has been changed to be in line with the ACER opinion as:

2. No later than 2 months after the entry into force of this Network Code, all National Regulatory Authorities competent on Bidding Zone Borders, where Long Term Transmission Rights do not exist, shall issue a decision pursuant to paragraph 3 of this Article. Such a decision shall be based on an assessment pursuant to paragraph 4 of this Article not older than ~~three~~ **four** years.

ENTSO-E supports ACER's recommendation to perform the assessment (as requested in Article 35) in a coordinated manner at a regional level. Article 35(4) has been changed accordingly to be in line with the ACER opinion related to coordination during the assessment:

4. The decision in paragraph 3 of this Article shall be based on an assessment, which shall include at least:
  - a) a consultation with Market Participants about their needs for cross zonal risk hedging opportunities on the concerned Bidding Zone Border(s); and
  - b) an evaluation performed in a coordinated manner **on a regional level** on whether Forward financial electricity markets are well developed and have shown their efficiency or whether other cross zonal hedging opportunities are needed. Such evaluation shall be based on transparent criteria.

ACER has requested to change the reassessment period to five years in Article 34(6) "as the financial markets are not likely to change in depth so frequently". ENTSO-E has changed the reassessment period from three to five years in line with ACER's Opinion, however, ENTSO-E would like to remind ACER that a three year reassessment periodicity had been requested by stakeholders. ENTSO-E suggests that ACER takes into account stakeholder's views before giving their recommendation to the European Commission.

Furthermore, ACER has requested to shorten the period for NRA decision after assessment up to six months. ENTSO-E agrees to shorten this timeframe, but would like to align it with NRA approval timeframes set in NC CACM.

Taking into account above considerations Article 35(6) has been amended as follows:

6. Upon request of the respective Transmission System Operators, or on their own initiative, and at least every ~~three~~ **five** years, National Regulatory Authorities competent on each Bidding Zone Border shall perform an assessment or reassessment in line with paragraph 4 of this Article. When such a reassessment is followed by a decision pursuant to paragraph 3 of this Article, such a decision shall not be issued more than ~~three years~~ **six months** after the reassessment has been completed.

### 3.6 OTHER ISSUES

To be better aline with NC CACM ENTSO-E proposes to add after Article 8 (Regulatory approvals) a new Article 9 to align with present drafting of NC CACM (latest public version from 22 November 2013).

#### Article 9

##### **REVIEW OF TERMS AND CONDITIONS OR METHODOLOGIES**

- 1. The party responsible under the network code for developing a proposal for terms and conditions or methodologies approved pursuant to Article 8 may launch a review of these terms and conditions or methodologies.**
- 2. Where a review of the terms and conditions or methodologies is launched by all relevant parties, they shall develop a proposal to amend or maintain the current terms and conditions or methodologies.**
- 3. The amendments to the terms and conditions or methodologies shall be consulted following the procedure foreseen in Article 5 and approved following the procedure foreseen in Article 8.**

Addition of this new Article implies that Articles 25(3), 25(4), 41(5), 41(6), 54(3), 54(4), 57(3) and 56(4) has to be deleted and Article 14(7) has to be changed as:

Art 15(7) When developing the capacity calculation methodology for Forward Capacity Allocation, the requirements for the fallback procedure, **and** harmonisation ~~and reassessment~~ of the capacity calculation methodology as defined in [Article on Capacity Calculation methodology] of the Network Code on Capacity Allocation and Congestion Management shall apply.

Following the progress of NC CACM, in order to enhance the consistency, the definition Social Welfare has been replace by economic efficiency throughout the NC FCA.

Last but not least Article 10 has been also adjusted based on outcome of the discussion on NC CACM. The modified Article 10 now does not list European Merging Function and puts the obligation on TSOs to have the listed roles. Please see below the new wording of Article 10:

~~While respecting the principles of transparency, proportionality and non-discrimination, each Member State shall, where required, assign to the respective~~ Transmission System Operator **shall** the following roles **in Forward Capacity Allocation**:

- Coordinated Capacity Calculator(s);
- ~~European Merging Function;~~

- c) Single Allocation Platform; and
- d) Regional Platform(s).

## Regulatory approvals

ACER has requested to have a non-exhaustive list of approvals and align the approach with other NCs. ENTSO-E agrees to align approach with other Network Codes, of which the most relevant is NC CACM. If ACER sees that operational codes are more relevant in this context then the amended text proposed by ACER in their opinion to be included in recitals can be amended.

*Recital (xx): Directive 2009/72/EC and Regulation (EC) No 714/2009 provide for powers and duties of national regulatory authorities with regard to measures taken by Transmission System Operators (TSO), allowing Member States to involve in certain cases also other national authorities. Those competences should also apply to measures taken by TSOs under this Network Code. To ensure consistent cross-border application of the most relevant of those competences, it is necessary to clarify the competence of national regulatory authorities to approve or fix specific terms and conditions **or methodologies**, ~~or actions necessary to ensure operational security or their methodologies~~ The Network Code does not preclude Member States from providing for the approval or fixing by national regulatory authorities of other relevant terms and conditions or ~~actions necessary to ensure operational security or their methodologies~~, within a timeframe allowing the timely delivery of those terms and conditions or ~~actions~~ **methodologies**.*

Regarding the ACER request related to issues under Article 8(4), ENTSO-E proposes the following changes to Article 8(4):

*The following shall be subject to approval by each National Regulatory Authority of the concerned Member States on one or more borders as determined on a case-by-case basis:*

- a) the decision on cross-zonal risk hedging opportunities as defined in Article 34 and on the selection of the type and characteristics of the Long Term Transmission Rights pursuant to Article 36;*
- b) the Nomination Rules pursuant to Article 41;*
- c) the designation of Regional Platforms for Allocation and Secondary Trading pursuant to Article 69;*
- d) Compensation Rules pursuant to Article 61(3);*
- e) Regional specificities of the harmonised Allocation Rules pursuant to Article 56;*
- f) the Regional Allocation Rules pursuant to Article 71;*
- g) the transitional Compensation Rules pursuant to Article 72; and*

*h) the control area based Forward capacity calculation and allocation pursuant to Article 73.*

The rationale for the proposed change is to reflect the reality that some regions may not be delineated according to Capacity Calculation Regions. Article 8(4) now sets out requirements at the regional level, whereas Article 8(3), sets out requirements specific to Capacity Calculation Regions. To ensure a consistent approach, Article 8(3) shall be amended to reflect approval of compensation rules correctly as follows:

*The following shall be subject to approval by each National Regulatory Authority of the concerned Capacity Calculation Region:*

- a) the Capacity Calculation Methodology and amendments pursuant to Article 14;*
- b) the methodology for splitting Cross Zonal Capacity pursuant to Article 24;*
- c) Compensation Rules pursuant to Article 60(1)**

### **Precision and consistency of articles**

Following the advice of ACER concerning the importance of drafting precise provisions and ensure consistency between the articles, ENTSO-E has reviewed the NC FCA and identified former Article 68 (General Provisions) as not adding much relevant information to all the following articles under the Transitional Arrangements title. Since the article itself contains only very general provisions and partly even repeats other articles, it has been removed in order to improve the quality of the NC FCA.

## **SUMMARY OF AREAS WHERE CHANGES TO THE NETWORK CODE REQUESTED BY ACER WERE NOT CONSIDERED APPROPRIATE**

### **3.7 INTRODUCTION**

This chapter gives a summary about what ENTSO-E has not changed in the resubmitted NC FCA in light of the ACER Opinion. In each section a detailed explanation is given why ENTSO-E has not considered appropriate the change proposed by ACER.

### **3.8 TIMELINES FOR ESTABLISHING THE SINGLE ALLOCATION PLATFORM AND HARMONISING THE TYPE OF TYPE OF TRANSMISSION RIGHTS, THE ALLOCATION RULES AND NOMINATION RULES**

#### **Single Allocation Platform**

In contrast to ACER, ENTSO-E sees a strong need to have a binding framework through the definition and approval of a set of common functional requirements for the Single Allocation Platform.

These requirements will serve as a transparent basis which should reflect all common expectations of all involved parties. For instance the functional requirements will serve as a common basis for the overall IT specifications. The functional requirements depend in great measure on the aspects being determined by the pan-European Harmonised Auctions Rules. Regulatory Approval is deemed as a precondition for TSOs before enrolling in such an investment and committing to significant operational costs. Apart from the relevance for cost recovery the approval step also enables NRAs to cross-check the TSOs' framework with their own expectations.

Consequently, ENTSO-E has not adopted ACER's wish to remove the first two essential process steps, i.e. development and approval of requirements. Besides, it can be remarked that the step of approving could in practice be provided by NRAs in less than six months.

ACER's proposal to allow in total an implementation period of 15 months may sound reasonable only from a political perspective, but not from the practical or possibly legal perspective. TSO's might be obliged to follow public procurement legislation, i.e. to run a tender in order to choose the provider for the Platform. Even if this can be avoided by choosing a joint venture concept, TSOs would likely have to seek approval from Competition

Authorities, which is usually time consuming. Therefore, ENTSO-E firmly believes that a twelve-month period for the decision making process is necessary in order to avoid being obliged to breach other legislation.

Similarly, ACER appears to underestimate the effort and time needed to set-up a single platform for all Europe, i.e. covering all borders and reflecting all TSOs needs. The Single Platform will not only be a function to be implemented between TSOs. Since it has to serve as a single point of contact for market participants, an entity has to be established catering for various technical, organisational, commercial and legal aspects. Recent experiences of establishing regional allocation platforms such as CASC and CAO<sup>1</sup>, with a lower degree of complexity than a European-wide, have proven the need to allow at least a twelve-month period for implementation of such a platform.

To conclude, the process for establishing the Single Allocation Platform designed by ENTSO-E is based on reasonable principles, and on a realistic but still ambitious estimation of timeframes. In addition, it has to be highlighted that market integration for Forward Capacity Allocation will not solely be achieved by having a Single Allocation Platform. This could be also observed during the drafting phase of the NC FCA, during which stakeholders have remained rather silent, requesting shorter timeframes.

### **Type of Transmission Rights**

The requested six-months deadline for NRA approval of the proposal for Long Term Transmission Rights is already included in the code under article 8 (4) a).

The request to include also a three-month deadline to implement the proposal has not been followed, since such a strict deadline would entail complications in practice. Depending on the entry into force of the NC FCA it could happen that this deadline expires for instance on the 5<sup>th</sup> of February or the 10<sup>th</sup> of December. In such cases it would make very little sense to introduce new products or product characteristics to the market. ENTSO-E suggests keeping the approach already chosen, with the consent of ACER, for the NC CACM, i.e. timescales for implementation will be defined in the proposals submitted by TSOs (cf. NC FCA Article 8 (5)).

### **Harmonised Allocation Rules**

ENTSO-E has decided to keep the 12-month deadline for the proposal of the Harmonised Allocation Rules for the following reasons. As it can be seen in Article 56 the Harmonised Allocation Rules will be based on a large number of requirements which are set out throughout the code. TSOs will have certainty on these requirements only at the time of entry into force of the code. Previous experiences have shown that preparing and harmonising allocation rules is a complex and time-consuming process involving a large number of parties (TSOs, NRAs, regulators). This can be underpinned by the recently presented ENTSO-E

Roadmap for harmonising the allocation rules, which estimates a twelve month period for preparing the first draft.

Similar to the case of the Type of Transmission Rights, ENTSO-E does not follow the request to include also a three-month deadline to implement the harmonised allocation rules. Allocation Rules are usually only changed from one calendar year to another. Introducing harmonised rules during the year would not only create legal complexities but also incompatibilities for instance with regard to registration requirements or already allocated products. Consequently, also here ENTSO-E sticks to the approach already chosen, with the consent of ACER, for the NC CACM, i.e. timescales for implementation will be defined in the proposals submitted by TSOs (cf. NC FCA article 8 (5)).

In addition, the ACER Opinion requests one single document for allocation rules for both PTRs and FTRs. ENTSO-E emphasises that this is clearly not requested by the CACM Framework Guideline which states: *“The CACM Network Code(s) shall also foresee a harmonised set of rules for borders where PTRs with UIOSI are applied and a harmonised set of rules for borders where FTRs are applied”*. Nevertheless, ENTSO-E has already addressed the need for harmonisation by Article 56(1), stating that *“The harmonised Allocation Rules for Physical Transmission Rights and the harmonised Allocation Rules for Financial Transmission Rights shall be consistent with each other, unless the characteristics of the product require them to differ”*.

Requiring a single document would deprive TSOs and the Market Participants from flexibility, in particular in case of the introduction of FTRs on certain borders, and increase complexity of the document itself.

### **Harmonised Nomination Rules**

ENTSO-E has not introduced the obligation to provide harmonised Nomination Rules within 27 months as requested by ACER. The article on Nomination Rules as submitted by ENTSO-E on 1<sup>st</sup> October 2013 is fully compliant with the Framework Guidelines, i.e. the wording *“progressively harmonise”* (NC FCA) adequately reflects the need for *“greater harmonisation”* (CACM Framework Guideline). Moreover, it has to be highlighted that Nomination Rules, in contrast to Allocation Rules, as set out in the NC FCA will have to contain highly technical details. Thus, a strict requirement to harmonise Nomination Rules, even within a three year period, would strongly impact the IT systems and processes of TSOs, Allocation Platforms and Market Participants. High investments and manpower would be needed.

Given that in the future (depending on how markets and needs evolve) TSOs, market participants and NRAs might prefer to introduce Financial Transmission Rights, for which the nomination stage would become obsolete, it seems hardly justified to start a pan-European harmonisation process for the Nomination Rules. ACER and ENTSO-E came to a similar conclusion in the summer of 2012 after having evaluated the status quo of nomination rules and systems in Europe in the context of defining the priorities within the cross-regional roadmap for the long-term timeframe.

## 3.9 PRINCIPLES FOR LONG TERM TRANSMISSION RIGHTS REMUNERATION

ACER has also displayed concern in its Opinion about the fact that principles for the remuneration of Long-Term Transmission Rights would be dealt with at the level of each Bidding Zone Border. However, since for instance transmission losses are considered on individual borders, a border-by-border basis approach is necessary.

### 3.10 FIRMNESS PROVISIONS

For the Long-Term Firmness Deadline ACER expresses in its Opinion that the Network Code should be amended to insist on harmonising the Long-Term Firmness Deadline for each type of Transmission Rights as well as between them so that, ultimately, only one Long-Term Firmness Deadline applies in Europe. The Framework Guideline states that: *“The CACM Network Code(s) shall also foresee greater harmonisation of the nomination rules, deadlines and processes”*. In the Forward Capacity Allocation Network Code, in the case of Physical Transmission Rights, the Long Term Firmness Deadline shall correspond indeed to the nomination deadline defined in the Nomination Rules. In the case of Financial Transmission Rights (and since these have no nomination deadline), the Long Term Firmness Deadline shall be placed between nineteen hours and two hours before Day-ahead Gate Closure Time (in all cases respecting a reasonable lead-time for Market Parties to adjust their positions).

Regarding the compensation scheme, ACER insists on the idea of compensation caps as an exception, the default situation having no caps at all. ACER also argues that the caps after the LTFD ought to be removed, which can now be done by NRAs after the cap has been breached. Please refer to Annex 1 “ENTSO-E Firmness Explanatory Document” in Annex 1 and to Section 3.4 (containing the changes implemented) for an explanation on the reasoning of ENTSO-E towards these required changes. Besides this, ACER suggests the removal of the derogation for outages which affect a Bidding Zone Border consisting of one single interconnector (in spite of the fact that these are likely to be *“curtailments of long duration”* as per the third derogation for caps *in the Framework Guideline*). For the compensation in case of force majeure and emergency situations, ACER indicates that the reference to emergency situations should be deleted from Article 62.

Please see Annex 1 “ENTSO-E Firmness Explanatory Document” for a detailed overview on the reasons why ENTSO-E has not completely adopted all ACER requests on Firmness. In general, ACER’s proposal for Firmness goes much further than what the Framework Guideline requires, introducing a Firmness Compensation Regime that is rather unbalanced.

Market Parties would face zero risk via an absolute unconditional uncapped product that is unprecedented in any sector with hedging instruments (insurance or financial – it is also to be highlighted that these two are private sectors where the issuing of the products is not compulsory as it is for TSOs operating in a regulated environment and fulfilling regulatory obligations). ACER’s proposal is not very compatible with the implicit linkage to the underlying capacity which naturally hedges the product issuer (TSOs) against defaults. Furthermore, any defaults and imbalances are meant to be covered with congestion income (currently under regulatory monitoring) originally intended for tariff reductions, redispatch and network investment; thus potentially damaging the interests of end-users, system security resources and real (cross-border) infrastructure growth.

In terms of incentives, the choice of leaving one side exempt from all risk does not recognise the capability of this party to influence the network (both with commercial actions and with the operation of the generation assets). Most assumptions that have driven ACER to this position are highly questionable, as commented in Annex 1 “ENTSO-E Firmness Explanatory Document”.

Regarding the relationship of ACER’s proposal with the CACM Framework Guideline, a comparison Table is enclosed:

ACER Opinion	Framework Guideline
Monthly cap as exception for DCs	No such provision
Yearly caps as exception for the rest	No such provision
No price caps allowed	No such provision
Caps must be on Bidding-Zone border basis	It is nowhere stated these should not be determined per market direction
Common Long Term Firmness Deadline timestamp for the whole Europe (irrespective of market characteristics, products, etc.)	No such requirement. The Guideline only states progressive harmonisation of the nomination rules, deadlines and processes and in its second derogation for caps it is very respectful of market characteristics (and implicitly of products and processes) for the fixture of any deadlines.

Some further remarks would be that the single tie-line interconnector derogation can be linked to a long-duration event and therefore could be maintained, nothing in the CACM Framework Guideline specifies an obligation to move this to the Harmonised Auction Rules and Regional Specificities.

With the intention to reach a viable compromise with ACER and a balanced risk sharing solution for all the involved stakeholders, ENTSO-E has eliminated the price caps, converted the caps after Long Term Firmness Deadline in flexible ones (these can be reviewed, modified or even eliminated by NRAs if they are breached). Additionally, ENTSO-E has

eliminated the principle of Revenue Adequacy and removed all concepts referring to a directional calculation of the caps, the predominant compensation regime in Europe (initial price paid) has also been eliminated under ACER requests prior to the Opinion. Any further modification is however, considered by ENTSO-E as potentially counter-productive for the development of new networks (especially in DC), end customers tariff evolution, and system security; besides these further modifications not being requested by the CACM Framework Guideline. Annex 1 “ENTSO-E Firmness Explanatory Document” explains this position further.

### **3.11 DECISION ON CROSS-ZONAL RISK HEDGING OPPORTUNITIES**

ACER requests to specify the criteria required to perform the evaluation under Article 35(4). ENTSO-E would like to highlight that the Agency’s request goes beyond the provisions of the CACM Framework Guideline. ENTSO-E is open to include evaluation criteria, but considers it more appropriate to have a proper analysis of the potential criteria to be applied and discussions with NRAs and the EC during the period preceding the NC FCA comitology process, all this before proposing any definite and detailed criteria.

### **3.12 OTHER ISSUES**

#### **Regulatory approvals**

ACER requests to have at least nomination rules (Article 8(4) (b)) to be subject to approval by all NRAs and thus included in Article 8(2).

PTRs will not be issued on all Bidding Zone Borders implying that there will be no Nomination Rules affecting all Bidding Zone Borders. For all the other borders it is not required to prepare fully harmonised nomination rules for reasons explained under 4.2. Thus only relevant NRAs shall approve these rules. This kind of approval (each NRA of the concerned Member States) is under Article 8(4), where approval of Nomination Rules already is included.

## 4 NEXT STEPS

### 4.1 ACER RECOMMENDATION TO EC

Article 6(9) of Regulation 714/2009, states:

*When the Agency is satisfied that the network code is in line with the relevant framework guideline, the Agency shall submit the network code to the Commission and may recommend that it be adopted within a reasonable time period.*

ENTSO-E is confident that through a number of well-placed text enhancements as well as a review of the overall, clarity and consistency of the code we will satisfactorily address ACER's observations and enable it to issue a recommendation to the European Commission in order to proceed to a quick adoption of the code.

### 4.2 COMITOLGY

The Code resubmitted by ENTSO-E shall only become binding if, after being recommended to the Commission by ACER, it is adopted via the Comitology procedure.

The Comitology process will be led by the European Commission who will present the draft text to representatives of Member States organized in a so-called "Committee". The Comitology procedure used for the network codes (called regulatory procedure with scrutiny) grants the European Parliament and the Council important powers of control and oversight over the measures adopted by the Committee.

For that reason, it is unclear how much time the process can take in practice. Having experience from other network codes – especially from NC CACM - ENTSO-E's working assumption is that it may take about 12 months from the issuing of the ACER recommendation to entry into force.

## 5 ANNEX 1 – FIRMNESS EXPLANATORY DOCUMENT

### 1. Introduction

On 1st October 2013, after one year of intensive work and stakeholder involvement, ENTSO-E submitted its draft of the Forward Capacity Allocation Network Code (FCA NC) to ACER. One of the most contentious topics of this code is firmness. Although ENTSO-E has sought compromise solutions, diverging views have persisted between ENTSO-E, ACER and some stakeholder organisations.

The aim of this paper is to explain ENTSO-E's position on firmness as set out in the FCA NC and more particularly, to respond to ACER's position paper which was shared with stakeholder associations during 2013 autumn. The diverging positions between the two organisations (ACER, ENTSO-E) are due to a different perspective on the type of long term cross zonal capacity products TSOs provide to the market. These capacity products facilitate trade between bidding zones, thereby encouraging the growth of a pan European electricity market for the benefit of end users. From the TSO's perspective they provide these capacity products to the market reflecting the capability of the transmission network to transfer energy. However from ACER's perspective TSOs provide a financial product to allow market participants to hedge their positions between different bidding zones. These two positions differ over who should bear the risks associated with the physical characteristics of the assets underpinning the capacity (e.g. curtailment). TSOs believe that the risks should be shared between those using these capacity products and TSOs, while ACER believes that all the risk should be borne by TSOs and financed through congestion income. This will reduce the income that can be used maintain or increase interconnector capacities or reduce network tariffs which may then impact end user tariffs.

This document is divided up into five sections. Section 2 describes the different firmness regimes under discussion between ACER and ENTSO-E, while Section 3 analyses ACER's assumptions that have led to its current position. Section 4 examines the impact of the different firmness regimes, based on analysis of historical data from several borders and Section 5 presents ENTSO-E's conclusion.

#### **Firmness costs and where they originate**

The firmness debate revolves around the question of how the risks for long term cross zonal capacity curtailments are shared, whether it is wholly placed on TSOs or shared with the users of the capacity. Capacity curtailments can happen for many reasons (such as faults etc.), and there are financial consequences as the energy arbitrage opportunity between the two bidding zones is curtailed. The cost of curtailment is ultimately a cost to the market and the key question is how this cost can be best attributed to the different parties in an efficient, transparent and non-discriminatory manner. On many European borders when capacity is curtailed in forward timescales, TSOs reimburse the holders of the cross zonal rights the amount the capacity holder has paid at auction for the capacity (initial price paid

compensation). ACER's preference is for TSOs to reimburse the day-ahead market spread, instead of the price paid at auction. The risk is that the day ahead market spread is unknown at the time of allocation and can be many times greater than the initial price paid at auction. To the extent that the market spread exceeds the initial price paid at auction, the TSO has to cover the costs from elsewhere, be it congestion income from the current or other timeframes or from network tariffs. Consequently, if congestion income or network tariffs are used to cover these payments through socialisation of costs, the costs of these capacity products are not providing an effective economic incentive to those using them as they are not being exposed to the true costs of providing the increased firmness. This may lead to an increase in end user tariffs if these costs are not properly reflected.

### **Congestion income**

Congestion income is the TSO revenue derived from selling cross zonal capacity products. Existing European legislation<sup>2</sup> defines how congestion income is used and these are listed below. Legislation also requires TSOs to report on the use of any congestion income and NRAs to verify that this complies with legislation.

#### Uses of congestion income:

- a) guaranteeing the actual availability of the allocated capacity; and/or
- b) maintaining or increasing interconnection capacities through network investments, in particular in new interconnectors.
- c) If revenues cannot be efficiently used for the above, they can be used to reduce network tariffs, subject to NRA approval.

The consequence of firmness regimes that allocate all risks to TSOs covering these increased costs through congestion income is that it reduces TSO congestion income for the other uses that the legislation provides for. In particular it reduces the ability of TSOs to increase interconnector capacities and to reduce network tariffs. It might also jeopardise future interconnection investment as reducing congestion income by ring fencing part of it to cover firmness costs makes investment less attractive and can potentially lead to an investment becoming unviable.

It should be recognised that the European Commission has granted exemptions to some TSOs from the use of revenues obligations. These TSOs are interconnector TSOs, sometimes termed "merchant" interconnectors. They are built on the precondition that they receive congestion income to finance the construction and operation of the interconnector investment, without which they would not be built. For these TSOs, the impacts are even more severe than for traditional TSOs.

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<sup>2</sup> Article 16.6 of regulation EC 714/2009 defines the uses of congestion income.

## 2. Description of potential different firmness regimes

### ENTSO-E proposal

When ENTSO-E submitted the Forward Capacity Allocation network code to ACER, ENTSO-E proposed a monthly capped market spread compensation. It introduced a concept called the long term firmness deadline. This is in line with the principle of the day-ahead firmness deadline provided for in the Capacity Allocation and Congestion Management network code but specific to the long term timeframe. This long term firmness deadline is the nomination deadline for physical transmission rights. For financial transmission rights it is between 19 and 2 hours before day-ahead market gate closure. For curtailments between the auction and the long term firmness deadline, compensation is capped at the long term transmission rights congestion income. For curtailments between the long term firmness deadline and the day-ahead firmness deadline, compensation is capped at the total monthly congestion income.

Where the compensation cap is hit, priority in compensation payments will be given to curtailments occurring between the long term firmness deadline and the day-ahead firmness deadline. This increases the level of firmness market participants see the closer they get to real time and reflects the shorter time they have to react. This proposal is balanced in terms of risk sharing and introduces the incentives for market participants to support system security.

### ACER Firmness Paper

ACER's position paper presented four alternative firmness regimes that will be briefly described and evaluated in the following paragraphs:

#### Option A – Firmness based on initial price paid

Initial price paid compensation gives transmission right holders compensation usually between 100% and 110% of the original price paid at auction, although this is border dependent. This is the most common compensation arrangement across Europe today.

This was part of ENTSO-E's original position as can be seen in the March FCA network code submitted for consultation. However responding to stakeholder and ACER feedback, ENTSO-E has moved away from this position and has provided a compromise solution. This will improve the firmness regimes for market parties on 24 borders across Europe.

#### Option B1 – Firmness based on capped market spread compensation (congestion income cap)

Capped market spread compensation means that curtailed transmission rights holders are compensated on the market spread between bidding zones as long as there has been sufficient congestion income received by TSOs to pay out from. Compensation is capped by a predefined time period of congestion revenue (e.g. monthly or annual).

Under this regime, market participants share the risks with TSOs. Under normal curtailment conditions, market parties receive market spread compensation. However when an extreme event occurs, the cap for the compensation may be reached so that market parties share some of the financial burden. Compared with initial price paid compensation (option A) moving to capped market spread is a significant increase in firmness costs compensation for many borders and TSOs.

### **Option B2 - Firmness based on capped market spread compensation (price cap)**

Price capped market spread compensation means that curtailed transmission rights holders are compensated on the market spread differential as long as it is less than a predefined cap. This ensures that under normal system conditions, market spread compensation is paid. However when an extreme event occurs, the price cap may be reached. Under these circumstances, market parties would share some of the financial burden (similar as for option B1). TSOs envisage that price cap compensation could be implemented together with a congestion revenue cap, rather than being mutually exclusive. The reason for combining a price cap with a congestion cap is to avoid situations where extreme price differentials and multiple curtailments exhaust all congestion income leaving some parties uncompensated. This ensures that as many market parties as possible are compensated.

### **Option C - Firmness based on full market spread compensation**

Market spread compensation means that curtailed transmission rights holders are compensated at the market spread between bidding zones. Under this regime, market participants do not share any of the risks and TSOs are exposed to the full risk and associated financial consequences which may impact network tariffs.

## **3. Analysis of ACER's assumptions**

The ACER position paper is based on underlying assumptions which ENTSO-E does not fully agree with, these are set out below:

### **TSOs are best placed to manage curtailment risk**

In an efficient market, risk is allocated to those who are best placed to manage it. Close to real time TSOs have sufficient tools to manage curtailment risk as they have the resources and responsibility for operating the power system in real-time which is their core business. However in the forward timeframes, the tools at a TSO's disposal are dramatically reduced. For example if a TSO had a curtailment that lasted for a few weeks or days, they might manage the curtailment by countertrading or cross-zonal redispatch. Market parties can and do trade cross zonal as this is a core business task for many market parties. TSOs generally focus more on balancing timeframes, whereas this firmness risk is best managed forward. Therefore it is not evident that TSOs could trade more efficiently than market parties and consequently it is not clear that TSOs are best placed to manage this risk.

### **Market parties have no influence on curtailments**

Curtailments happen for a variety of reasons, some of which are TSO controlled, while some are caused by the actions (or inaction) of market parties. Market parties can contribute significantly to the impact of the curtailments, both in the severity and the length as sometimes it is their assets that are needed for re-dispatch to avoid curtailment. Therefore if market parties influence curtailments via their market behaviour, then they shall also share the responsibility and associated risks.

### **There is surplus congestion income available for firmness related cost compensation**

As explained previously, existing European legislation defines how congestion income can be used whether it is to guarantee or increase interconnector capacity. Where these uses are not possible or efficient, it can be used to reduce network tariffs. Therefore the consequence of changing firmness regimes and covering these increased costs through congestion income is that it reduces the income for increasing interconnector capacities or reducing network tariffs.

### **Investment decisions are not influenced by congestion income.**

Price differences and therefore congestion income is one of the signals that indicate more investment is needed across a border. For some TSOs and in some regulatory regimes, there is a strong link between investment decisions and congestion income. Therefore if the firmness regime is made more onerous financially, it will reduce congestion income available for cross-border investments and hence lower cross zonal investment.

### **TSOs curtailment and re-dispatch decisions are influenced by firmness compensation**

ACER assumes that if firmness compensation payments were increased, this would incentivise TSOs to reduce the amount of curtailments. Furthermore, ACER also assumes that congestion income would be increased, (as users no longer price in the risk of curtailment) and therefore this increased income would allow TSOs to make more use of re-dispatch to avoid curtailment. However TSOs curtail capacity for operational security reasons and firmness compensation is not a driving factor.. Therefore a more onerous firmness regime will not change the amount of curtailment or re-dispatch, simply the imposed cost borne by TSOs.

## **4. Impact of different firmness regimes**

ACER's firmness paper concluded that its preferred firmness policy was option C (full financial firmness) although option B1 (capped congestion income cap) is also permissible due to the significant uncertainties surrounding the impact of implementing option C. Therefore ENTSO-E has analysed the two ACER preferred options and compared them against its own proposal in the code. ENTSO-E's analysis has used historical data on 25

borders between January 2011 and June 2013, although for some borders a slightly different time period was selected due to data availability issues.<sup>3</sup>

### Financial risk exposure of market spread compensation

The price spread between neighbouring bidding zones can be significant. For example price caps in the NWE region after NWE go live will be harmonized at +3000/-500€/MWh. Therefore theoretically, the maximum price spread can be €3500. In practice large price spreads are seen and can persist for significant periods of time. Figure 1 shows the price spread between France and Britain on 8<sup>th</sup> February 2012. The high price spread was due to a spike in the French day ahead prices (the French price reached 1938.5 €/MWh). Similar price spikes have been seen on other borders and in other regions and this is shown in Figure 2.

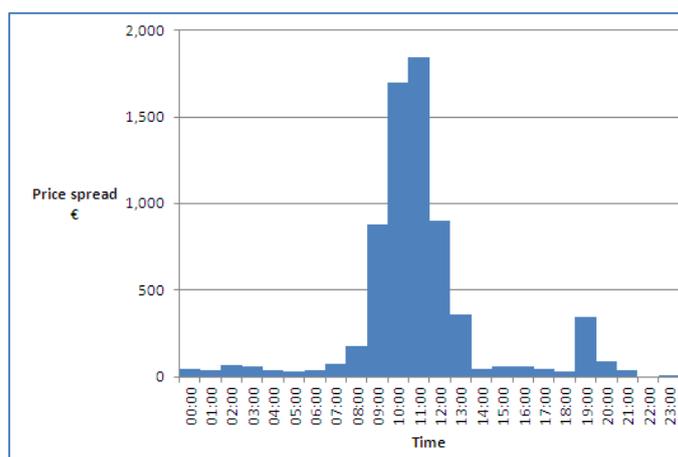
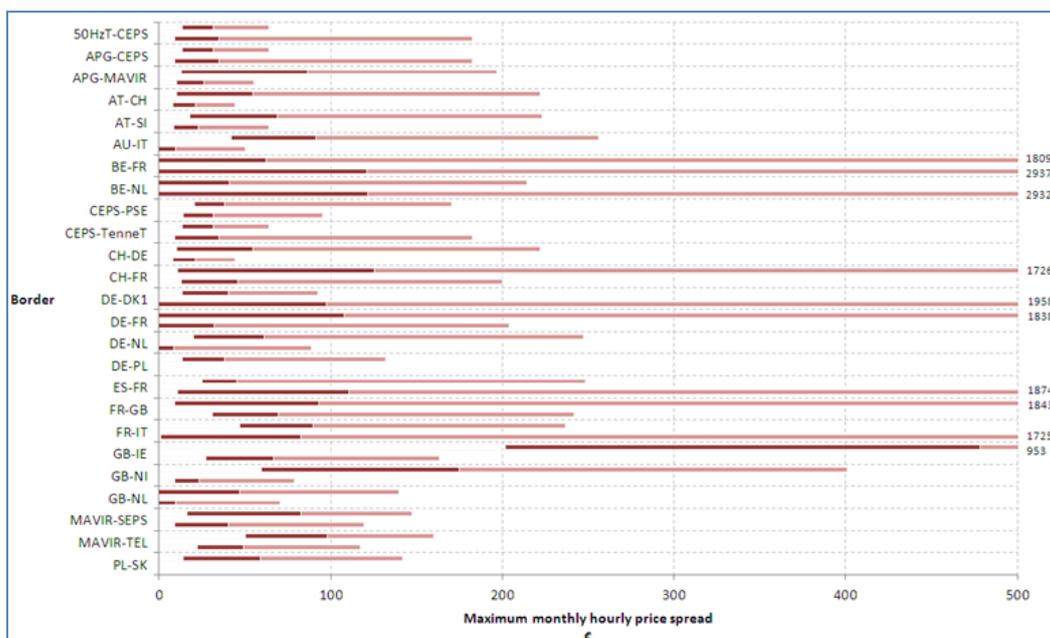


Figure 1 Price spread between FR-GB on 8<sup>th</sup> February 2012

Figure 2 shows the maximum monthly price spreads by border and direction using the historical period analysed. The maximum of the hourly price spreads were taken for each month. The spread of these maxima were then analysed and this is shown below. There are two bars for each border representing the different price spreads in each direction. Each bar is split at the average maximum monthly price spread. If the maximum monthly price spread is greater than €500, the actual figure is displayed on the right hand edge of the graph.

<sup>3</sup> Data from the CH-FR border are available from 01.2012 onwards and in the direction CH to FR no long term capacities have been allocated. On the border PL-CZ no long term capacities have been allocated in the direction PL to CZ and data on maximum price difference are available until 12.2012. On the border NL-GB data is available from 04.2011 onwards. On the borders PL-DE and PL-SK data is available until 12.2012 and there have been no long term allocation s in the direction DE to PL and SK to PL.



**Figure 2 Maximum monthly price spreads by border and by direction**

Capacities between bidding zones are variable, but are generally of the order of a few GW. Therefore combining the above price spreads with the potential capacity that can be curtailed gives the maximum financial risk exposure that TSOs would face with market spread compensation. This is shown in **Figure 3**.

Price spread (€/MW)	Curtailment volume (MW)				
	100	500	1 000	2 000	3 000
10	1 k€	5 k€	10 k€	20 k€	30 k€
100	10 k€	50 k€	100 k€	200 k€	300 k€
500	50 k€	250 k€	500 k€	1 000 k€	1 500 k€
1 000	100 k€	500 k€	1 000 k€	2 000 k€	3 000 k€
2 000	200 k€	1 000 k€	2 000 k€	4 000 k€	6 000 k€
3 000	300 k€	1 500 k€	3 000 k€	6 000 k€	9 000 k€

**Figure 3 TSO risk exposure per hour for different price spreads and curtailment volumes**

Figure 3 shows that under market spread compensation, for a 3000MW curtailment and with a €3000 price spread, TSOs would be obliged to pay out €9million per hour. It shows that the costs of market spread compensation can be considerable and can reach magnitudes of the order of €millions per hour. If the curtailment lasted a few hours/days/weeks/months, then the compensation amounts can be considerable and significantly more than the congestion income available. Furthermore, if all capacity was curtailed then there would also be no income from the day ahead allocation. This missing money means the TSO has to cover the costs from elsewhere be it congestion income from other timeframes, or directly from network tariffs.

### Impact of a monthly congestion revenue compensation cap

As shown in Figure 3, potential market spread compensation costs can be very high. Therefore ENTSO-E has proposed a capped market spread compensation regime. The following figures show that the ENTSO-E’s proposal does not limit market spread compensation under normal conditions and only in very extreme events are the caps reached. This ensures that risks are shared between market parties and TSOs.

**Impact of a cap between the long term firmness deadline and day ahead firmness deadline**

Figure 4 forecasts the impact of a monthly congestion revenue cap<sup>4</sup> between the long term firmness deadline and the day ahead deadline for five different scenarios. The chosen scenarios reflect both very extreme scenarios (where market parties should share some of the risk), and realistic scenarios (where TSOs manage the risk). The percentages show how much of the time half of the border capacity could be curtailed and market spread compensation paid to market parties without capping.

As can be seen in the next page, a congestion revenue cap based on long term and daily allocation does not limit compensation payments in most realistic scenarios and on most borders. Therefore market parties will receive uncapped market spread compensation in normal circumstances and only in very extreme scenarios will the cap be reached, sharing the risks between TSOs and market parties.

		← Extreme Scenario   Severe, but realistic scenario →				
		In how many percent of the months could the compensation be paid uncapped when curtailed after the Long Term Firmness Deadline, if...				
		A	B	C	D	E
		Compensation with price difference 3000€ for four hours	Compensation with price difference 1000€ for four hours	Compensation with price difference 100€ for 24 hours	Compensation with price difference 100€ for four hours	Compensation with price difference is the monthly maximum applied for four hours
AT	HU	27%	77%	93%	100%	100%
AT	SL	20%	73%	77%	100%	100%
AT	CH	13%	57%	87%	100%	100%
AT	IT	100%	100%	100%	100%	100%
BE	FR	13%	27%	33%	100%	97%
BE	NL	30%	97%	97%	100%	97%
CZ	50HzT	0%	0%	13%	90%	100%
CZ	TTG	0%	33%	70%	100%	100%
CZ	APG	0%	3%	47%	100%	100%
DE	CH	7%	60%	87%	100%	100%
DE	FR	43%	100%	100%	100%	100%
DE	NL	27%	57%	73%	97%	97%
DK1	DE	80%	100%	100%	100%	100%
FR	CH	33%	100%	100%	100%	100%
FR	ES	87%	100%	100%	100%	100%
FR	GB	30%	100%	100%	100%	100%
FR	IT	100%	100%	100%	100%	100%
GB	NI	50%	100%	100%	100%	100%
GB	IE	100%	100%	100%	100%	100%
NL	GB	67%	89%	100%	100%	100%
PL	DE	100%	100%	100%	100%	100%
PL	SK	79%	96%	96%	96%	96%
PL	CZ	80%	93%	93%	100%	100%
RO	HU	0%	23%	43%	100%	100%
SL	HU	10%	70%	80%	100%	100%

**Figure 4 Percentage of time that full market spread compensation could be paid with a monthly total congestion income cap when half of the border capacity is curtailed between the long term firmness deadline and day ahead firmness deadline**

Figure 5 is very similar to Figure 4, but instead of curtailing half the border capacity, it curtails the full border capacity. As for Figure 4, the conclusion is similar and only in very extreme

<sup>4</sup> For the sake of readability the figures are based on a monthly congestion revenue cap on border basis

scenarios will the cap be reached. However it should be recognised that curtailing the whole capacity on borders with several lines and a high interconnection capacity involved is unlikely.

		Very Extreme Scenario ←-----→ Less Extreme, but still very severe				
		In how many percent of the months could the compensation be paid uncapped when curtailed <b>after</b> the Long Term Firmness Deadline, if...				
		A	B	C	D	E
		Compensation with price difference 3000€ for four hours	Compensation with price difference 1000€ for four hours	Compensation with price difference 100€ for 24 hours	Compensation with price difference 100€ for four hours	Compensation with price difference is the monthly maximum applied for four hours
AT	HU	3%	53%	73%	100%	100%
AT	SL	0%	47%	67%	97%	100%
AT	CH	0%	37%	53%	100%	100%
AT	IT	100%	100%	100%	100%	100%
BE	FR	3%	17%	27%	47%	97%
BE	NL	3%	60%	90%	100%	97%
CZ	50HzT	0%	0%	0%	90%	93%
CZ	TTG	0%	0%	10%	100%	100%
CZ	APG	0%	0%	0%	100%	100%
DE	CH	0%	23%	53%	100%	100%
DE	FR	17%	77%	100%	100%	100%
DE	NL	13%	37%	57%	97%	97%
DK1	DE	40%	90%	100%	100%	100%
FR	CH	0%	72%	94%	100%	100%
FR	ES	37%	97%	100%	100%	100%
FR	GB	0%	97%	100%	100%	97%
FR	IT	83%	100%	100%	100%	100%
GB	NI	0%	100%	100%	100%	100%
GB	IE	0%	100%	100%	100%	100%
NL	GB	26%	74%	81%	100%	100%
PL	DE	61%	100%	100%	100%	100%
PL	SK	67%	88%	96%	96%	96%
PL	CZ	53%	90%	93%	100%	100%
RO	HU	0%	0%	7%	100%	100%
SL	HU	0%	40%	60%	97%	100%

**Figure 5 Percentage of time that full market spread compensation could be paid with a monthly total congestion income cap when the full border capacity is curtailed between long term firmness deadline and day ahead firmness deadline**

**Impact of a cap between the auction and the long term firmness deadline**

		Extreme Scenario ←-----→ Severe, but realistic scenario				
		In how many percent of the months could the compensation be paid uncapped when curtailed <b>before</b> the Long Term Firmness Deadline, if...				
		A	B	C	D	E
		Compensation with price difference 3000€ for four hours	Compensation with price difference 1000€ for four hours	Compensation with price difference 100€ for 24 hours	Compensation with price difference 100€ for four hours	Compensation with price difference is the monthly maximum applied for four hours
AT	HU	7%	60%	87%	100%	100%
AT	SL	0%	60%	67%	100%	100%
AT	CH	0%	40%	83%	100%	100%
AT	IT	97%	97%	97%	97%	97%
BE	FR	0%	10%	20%	100%	93%
BE	NL	0%	60%	97%	100%	97%
CZ	50HzT	0%	0%	0%	83%	100%
CZ	TTG	0%	10%	47%	100%	100%
CZ	APG	0%	0%	20%	100%	100%
DE	CH	0%	30%	77%	100%	100%
DE	FR	0%	77%	100%	100%	97%
DE	NL	0%	23%	43%	100%	100%
DK1	DE	0%	77%	100%	100%	100%
FR	CH	17%	89%	100%	100%	100%
FR	ES	37%	100%	100%	100%	100%
FR	GB	27%	100%	100%	100%	100%
FR	IT	100%	100%	100%	100%	100%
GB	NI	50%	100%	100%	100%	100%
GB	IE	100%	100%	100%	100%	100%
NL	GB	48%	81%	89%	100%	100%
PL	DE	48%	96%	100%	100%	100%
PL	SK	46%	71%	75%	92%	92%
PL	CZ	0%	47%	67%	100%	100%
RO	HU	0%	20%	37%	100%	100%
SL	HU	3%	63%	67%	100%	100%

**Figure 6 Percentage of time that full market spread compensation could be paid with a monthly long term congestion income cap when half of the border capacity is curtailed between the long term auction and the long term firmness deadline**

**Figure 6** is very similar analysis to Figure 4. However this analysis only used the monthly forward auction revenue for compensation, while for Figure 4 it included both the forward and the day ahead congestion income. Therefore a cap in the amount of the long term congestion income also ensures that risks are shared between market parties and TSOs.

**Impact on subsea cables and single circuit links.**

The impact of changing the firmness regime has a severe impact on subsea cables and single circuit links. This is because the risk profile of these assets is fundamentally different compared with most borders and this impacts the ability of TSOs to provide a more secure firmness regime. Faults on subsea cables are of longer duration, while faults on single circuit links generally lead to curtailment as there are fewer contingencies (if any). Therefore (as can be seen in the ACER data) these links are more prone to curtailments and can last significantly longer.

The increase in compensation costs for single circuit cross zonal connections is compounded compared to borders with parallel circuits. When capacity is curtailed, price differentials between bidding zones increase. However with no parallel circuits to dampen the impact on market spreads, the increase can be marked, exacerbating compensation costs.

Potentially, faults on subsea cables can last for a significant period of time and generally longer than those on overhead lines. Therefore increasing the firmness regime and hence increasing curtailment costs impacts subsea cables and single circuit links significantly as there is less redundancy, they are more prone to curtailments and when curtailments happen, they may take significantly longer to resolve.

**Impact on merchant interconnectors**

Merchant interconnectors have been built on the expectation that they receive congestion income without which they would not exist. Their business model requires enough congestion income to cover their operational costs (which may include the financing cost required to build the asset) and these can be considerable. Therefore if their congestion income is reduced through increased firmness costs, their business model may become unviable and the assets may cease to operate. Further for existing interconnectors changing the regulatory regime upon which the original investment was made imposes additional costs and there is little they can do to adjust.

Merchant interconnectors have very limited tools available to manage the risks of curtailment. As it has been demonstrated, the TSOs financial risk exposure for increasing the firmness regime compensation is considerable and can be €million's per hour. Merchant interconnectors are small entities with a small balance sheet. Therefore the impact of the increased cash flow volatility and risk is something that would impact these entities considerably and it is unclear whether this is something that they could bear.

Merchant interconnectors can be in parallel on the same border. If firmness costs are paid for through congestion income and that is pooled by border and not by asset, then a merchant interconnector will be exposed to the financial impacts of any curtailments of its competitor. For example a merchant interconnector might have to pay compensation to its competitors' capacity right holders because its competitor had to curtail, which again undermines investment potential.

Finally, multiple billions of Euros in investments is needed in the North Sea to facilitate the growth of renewable generation. Within the GB regime there is further 5 GW of interconnectors contracted to connect. However these projects require solid business cases to proceed. Imposing increased firmness compensation costs and the increased cash flow volatility that the firmness regime proposed by ACER will reduce the attractiveness for investors and may jeopardise investments and hence limit future interconnector investment. This in turn reduces cross-border market growth possibilities.

## 5. Conclusion

This paper explains that the divergent position between ENTSO-E and ACER is due to a fundamental different perspective on the type of product TSOs offer to market parties. ACER believe that TSOs offer a financial hedge between bidding zones, whereas TSOs believe that they offer a capacity product reflecting the capability of the transmission network to transfer energy with the associated risks. TSOs believe that the risks should be shared between those using the interconnections and TSOs, whereas ACER believes that all the risk should be borne by TSOs. The danger is that by moving all the risk onto the TSOs, this removes market party incentives to help resolve curtailments and in some cases might actually exacerbate the situation if market power is an issue.

ACERs position is based on underlying assumptions which ENTSO-E does not accept. ACER believes that TSOs are best placed to manage curtailment risk and market parties should not be exposed to any risk. While this may be true close to real time as this is TSO core business (hence why TSOs guarantee physical firmness after the Day Ahead Firmness deadline), in other timeframes the tools at a TSO's disposal are dramatically reduced. Market parties can and do trade across bidding zones and for many of them this is a core business task. The same is not true for TSOs who generally focus on the balancing timeframe, whereas this firmness risk is best managed ahead of real-time. Consequently **it is not evident that TSOs are best placed to manage this risk in its entirety** and by requiring TSOs to do so, total system costs may rise.

Curtailments happen for a variety of reasons, some of which are TSO controlled, while some are for instance caused by the actions (or inaction) of market parties. Market parties can significantly influence curtailments via their market behaviour and so should also share some of the responsibility and associated risks. Moving all the risk to TSOs **removes the**

**incentive for market parties to help resolve curtailments.** Ultimately this means that the costs of capacity products are not providing an effective economic incentive to those using them as they are not exposed to the true costs of providing the increased firmness. This may lead to an increase in end user tariffs if these costs are not properly reflected.

Congestion income is used to guarantee the availability, increase interconnector capacity and where this is not feasible, reduce network tariffs. Therefore if firmness costs increase and are financed through congestion income, this **reduces the income that can be used maintain or increase interconnector capacities or reduce network tariffs** which then impacts end user tariffs.

This paper illustrates that the impact of adopting the firmness regime proposed by ACER is potentially severe for TSOs and the impact on sub-sea cables and single circuit links is even more acute. This is because these links have less redundancy, are more prone to curtailments and when curtailments happen, they may take longer to resolve. This is compounded if the links are “merchant” as in practice they have very limited tools to minimise the risk and are more susceptible to the cash flow volatility. Therefore across Europe the assets that underpin cross zonal capacity products are fundamentally different both in their physical characteristics and the national regimes that provide them. Consequently if these differences are not reflected within the applicable firmness regime, total system costs may increase, while at the same time **reducing the incentives on impacted borders to build more cross border capacity** needed to foster a pan European electricity market.

Therefore ENTSO-E has proposed a balanced firmness regime that allows for these risks. This paper demonstrates that under normal and severe system conditions ENTSO-E’s proposal gives market parties a financial hedge for most curtailments and only in very exceptional circumstances would this be capped to avoid an excessive impact on end users via network tariffs. In all other cases, the risk is not shared with market parties and is born entirely by TSOs.